my note[1] regarding the possible origin of mutations in somatic cells, in which I erroneously credited to Davis[2] the suggestion that triploid (semi-*gigas*) mutants of *Œnothera* are to be accounted for through the production of occasional diploid gametes by an extra fission of chromosomes. Obviously, as Gates points out, Davis's suggestion of diploid gametes could not have been offered as an explanation of triploid mutants, for the reason that the triploid condition in *Œnothera* was not known in 1911. Davis's suggestion was offered to account for the tetraploid condition of *gigas* mutants. The suggestion that tetraploid mutants may arise through a double fission of chromosomes in some mitosis soon after fertilization should have been credited to Gates.[3] I am grateful to Gates for setting me right in these matters.

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HOW ORYCTES RHINOCEROS, A DYNASTID BEETLE, USES ITS HORN

MANY beetles, particularly in the family Dynastidæ, have more or less conspicuous horns or processes on their head or prothorax. These often assume fantastic shapes and enormous proportions. Sometimes they occur on both sexes, but more often they are found only on the male or at least reach their greatest development there. In the latter case they have been looked upon by some as characters that may have been developed through sexual selection, the assumption being that males so ornamented were more attractive to the females or in some other way were more likely to be able to mate and thus perpetuate their kind. While such a theory may not be very satisfactory without more detailed observations or experiments to prove its soundness, we know of no other that is any more acceptable.

Many of the horns and projections are of such a size and character that it is hard to conceive of their being of any possible use to the insect in its struggle for food, or with its enemies. Possibly some of them are of no use in this way, but while studying the rhinoceros beetles, *Oryctes rhinoceros*, in Samoa last summer, I had an opportunity to watch these insects making a very evident and profitable use of the horn on their heads. The horn is present on both sexes and is usually longer on the male than on the female, but many males may be found with very short horns and many females with long horns, so that the sexes can not be separated by this character. The horns vary in length from 1.5 mm. to 10 mm., 6 or 7 mm. being about the average length. The beetles feed on the growing heart in the crown of the coconut trees. They usually enter the trees close to the base of a leaf, crawling down as far as they can between the tree and leaf-stem before beginning to bore. The spiny legs enable the beetle to brace itself firmly before it begins literally to root its way into the web-like sheath through which it usually has to pass before it reaches the hard wood. In doing this the head is lowered and the horn thus thrust forward. The horn becomes imbedded in the tissue of the plant and when it is raised serves as an anchor to hold the insect while it pulls or pushes its body forward with its legs, or while it tears the tissue of the plant with its heavy mandibles. The insect will always root and push its way as deep as it can before it begins to bore. The amount of power it can develop while trying to force its way between the bases of two leaves or in other tight places is truly remarkable.

Thus, in this instance at least, we see that this horn is of direct use in aiding the insect to reach its food.

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STANFORD UNIVERSITY,
September, 1913

1 *Amer. Nat.*, 47: 375, 1913.
2 *Annals of Botany*, 25: 959, 1911.
3 *Archiv f. Zellforsch.*, 3: 525, 1909.

SCIENCE AND THE NEWSPAPER

WHILE recently giving a discussion of the inclined plane, an idea which was new to me suddenly presented itself. The equation asserts that the force required to make a mass slide up the plane would under certain conditions be made less, by making the plane

steeper. A student reporter thought it to be his duty to announce to the newspaper world that a new law of physics had been discovered, and the importance of the discovery seems to have increased with each successive announcement.

This experience reminds me of a similar one which happened to me years ago. At the time when reporters everywhere were rushing to physics laboratories in order to learn something of X-rays, a reporter came to me. He found me experimenting with Hertz waves. By means of a large double-convex lens of wax, the waves were being brought to a focus upon a photographic plate enclosed in a wrapping of black paper. For several weeks I had been trying to produce a shadow picture upon the plate. The reporter seemed interested, and he seemed to have some intelligence. He could appreciate the evidence that the lens caused a refraction of the rays. Although he was informed in the most emphatic manner that this was not a refraction of X-rays, the public announcment was made that I had succeeded where others had failed, in the refraction of X-rays.

It seems to be impossible to quench a disturbance of this kind when it has once been emitted from a news-agency. Scientific readers have probably had enough of such experience to see the importance of keeping, in an accessible place, a few grains of salt.

Francis E. Nipher

THE INDUSTRIAL FELLOWSHIPS AT PITTSBURGH

To the Editor of Science: The industrial fellowship project, originated in the University of Kansas by Professor Robert K. Duncan and now in flourishing operation under his direction in the University of Pittsburgh under the name of the "Mellon Institute of Industrial Research and School of Specific Industries," has been more than once subjected to the criticism which found a place in an otherwise favorable reference in the presidential address of Mr. Arthur D. Little to the American Chemical Society at its recent meeting at Rochester:[1]

[1] Science, November 7, 1913, p. 652.

While some doubt may reasonably be expressed as to the possibility of close individual supervision of so many widely varying projects, the results obtained thus far seem entirely satisfactory to those behind the movement.

When first made this criticism had, I think, some validity. But to any one who has come into touch with the Mellon Institute, even as a visitor, it must be evident that the difficulty has been squarely met by "those behind the movement." The endowment of the fellowships is now so liberal as to permit of the employment of investigators of experience, who do not require "close individual supervision." In consequence, the relations of the Director and the Fellows are rather comparable to those of a university president and his corps of professors and instructors than to those of a university professor and his class of graduate students. Furthermore, the director is now assisted in the work of supervision by an associate director and an assistant director. Thus the services of three advisers are at the command of each Fellow, who may, moreover, obtain help from his colleagues without divulging the secrets of his own research.

If one acquainted with the project merely as an onlooker might venture an opinion upon the qualifications most essential to the success of the director of such an institute, it would be that a wide and sound general knowledge of scientific principles, a broad sympathy enabling one to appreciate the widely differing viewpoints of business men and of investigators and inventors, an active but disciplined scientific imagination and a strong, firm will are of more importance than an encyclopedic acquaintance with details. J. F. Snell

Macdonald College
Quebec, Canada,
November 18, 1913

SCIENTIFIC BOOKS

Untersuchungen ueber Chlorophyll. Methoden und Ergebnisse von Richard Willstaetter und Arthur Stoll. Ein Bd., pp. 424, mit 16 Text-figuren und 11 Tafeln. Verlag von Julius Springer, Berlin. 1913. M. 18.00, geb M. 20.50.